ABSTRACT OF THE DISCLOSURE

A highly sensitive particulate matter concentration measuring apparatus for measuring a concentration of particulate matter in a sample gas collected in a collecting region formed on a collecting medium, the collecting region being formed by drawing the sample gas through a cross-sectional area of the collecting medium, the collecting medium is a filter tape that includes a porous film made of a fluorine resin and a reinforcing layer provided on the porous film, the particulate matter concentration is measured using a beta-ray absorbing method while removing the error influences of naturally occurring beta radiation, and includes an additional impact type sampler or cyclone type sampler for filtering the sample gas prior to collecting the particulate matter in the collecting region.